REPORT

Of the Committee Appointed by Governor Robert O. Blood to Study the Facilities in the State of New Hampshire in the Care of Tuberculosis

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GOVERNOR ROBERT O. BLOOD

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State of New Hampshire

In The

Care of Tuberculosis

CONCORD, N. H.
1943

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REPORT

His Excellency Governor Robert O. Blood,
Concord, New Hampshire.

DEAR GOVERNOR BLOOD:

The Committee which you appointed in October, 1941, to study the facilities in the State of New Hampshire for the care of tuberculosis, begs to submit the following report of their findings and recommendations.

The Committee met ten times from November 5, 1941, to November 11, 1942. Eight of the meetings were held in Concord, and two were held at the State Sanatorium and at the Pembroke Sanatorium, both of which institutions were inspected by the Committee. At one of the meetings in Concord, the Committee conferred with three representatives of the New Hampshire Medical Association; at another, there were present a group of leading members of the New Hampshire Tuberculosis Association, including the Secretary Dr. Robert B. Kerr, and former Governor Huntley N. Spaulding. At two other meetings there was present Dr. Herman E. Hilleboe, P. A. Surgeon-in-Charge Tuberculosis Control, States Relations Division, United States Health Service. Three members of the Committee also attended the annual meeting of the New Hampshire Tuberculosis Association in Manchester, October 1, 1942.

During the course of its study, the Committee collected, in addition to its own observations, a great deal of written and printed material bearing on the subject in question, which was used in the preparation of the

following pages. Outstanding in this material was an extremely valuable report prepared by Dr. Hilleboe. The Committee is particularly indebted to two of its members, Arthur E. Bean and John J. Hallinan, for data secured from State departments in Concord. It should be mentioned that none of the members are medical doctors or equipped with a scientific knowledge of tuberculosis—their experience lies mainly in the field of business, institutional and public affairs.

The plan of this report is as follows:

A. Information and Discussion

1. New Hampshire State Sanatorium
2. Pembroke Sanatorium
3. Other State Organizations and Institutions
   a. New Hampshire Medical Society
   b. State Board of Health
   c. New Hampshire State Hospital
   d. Laconia State School
4. New Hampshire Tuberculosis Association

B. Recommendations

A. Information and Discussion

1. *New Hampshire State Sanatorium*

a. *History.* The New Hampshire State Sanatorium at Glencliff was established by the Legislature in 1907 as the result of recommendations of a commission which was authorized by the Legislature in 1901, and which made its report in 1902. The Sanatorium was opened in 1909, and consisted of two Wards, one for men and one for women, an Administration Building, and a Boiler House. In the course of years, many additions have been made to the plant, the most notable being the Brown Infirmary in 1923, a 53-bed hospital unit, to which two wings were added in 1937 containing 32 more rooms.

In May, 1923, Dr. Robert M. Deming was appointed Superintendent of the Sanatorium, at a time when the treatment of tuberculosis was undergoing an entirely new and seemingly radical revision. It is hard to overestimate the value of the effect of Dr. Deming's skill and judgment on the physical and therapeutic growth of the institution. Following Dr. Deming's death on February 28, 1942, Mrs. Deming served as Acting Superintendent until May, 1942, when Dr. Rufus R. Little, formerly Superintendent of the State Sanatorium of Utah, was appointed Superintendent. The State Sanatorium at Glencliff is under the charge of a Board of Trustees appointed by the Governor with the consent of the Council.

b. *Plant.* The institution is located in the Town of Benton, on the southern slope of Mt. Moosilauke—1,650 feet above sea level. There are roughly 500 acres of land.

The plant, exclusive of the farm buildings (which the Committee did not visit), consists of about 20 buildings. Three of these are brick—the Administration Building, the Infirmary, and the Boiler House. The remainder of them are of frame construction, the most important being the Men's Ward, the Women's Ward, the Service Building, Spaulding Hall (Recreation), the Shop, the Doctor's dwelling, the Superintendent's dwelling, and two large garages with a capacity for 18 cars. There are also smaller buildings—Laundry, Blacksmith Shop, Storage House, Garbage House, Ice House, Garage, and Root Cellar. Water is delivered to the Sanatorium from the Reservoir some distance away, and electricity from the Hydro-Electric Plant, a mile and a half distant.

The farm includes a farm-house, two barns, a pig house, and a shed.

In recent Annual Reports, the value of the whole property is given as over $600,000; but a detailed

Appraisal Survey, issued from the Comptroller's Office and dated January 14, 1942, gives a total appraisal value of the buildings, land, service lines, and some equipment (Furniture seems to be omitted) at $470,792.96. In this, most of the appraisal values appear to be greater than the cost values.

c. *Condition of the Plant.* In the time at its disposal, the Committee could not make more than a superficial examination of the plant; but from what they saw, the members felt that the buildings, equipment, and grounds were well maintained and kept orderly and clean.

As to the condition and adequacy of the various services and the ability of the plant to satisfy present and future demands, the Committee had to rely on various sources of information outside its own knowledge.

In the summer of 1942 the New Hampshire Board of Underwriters examined the Sanatorium from the point of view of fire protection. Their report states that in general the buildings are constructed and administered so that fire hazards are not an important source of worry. The report recommends a number of small improvements in the way of additional fire-extinguishers and removal of inflammable materials, and lists more important changes as follows:

1. Removal of transformers from tunnel between Administration Building and Infirmary, and relocation.
2. Enclosure in conduits of all electric call system wiring in tunnels.
3. Removal of small paint shop from basement of Infirmary.
4. Construction of fireproof walls in attic of Infirmary between main portion and wings.
5. Installation of ventilating fan and outside vent from picture booth in Recreation Building.

6. Enclosure of stairway in shop in fireproof manner.
7. Installation of various new hydrants, sections of water pipe, and valves in water supply system.
8. Clearing away of brush around Hydro-Electro Plant to a distance of 50 feet.

On March 23, 1942, the Director of the State Board of Health submitted a report to Governor Robert O. Blood on sanitation facilities at Glencliff. He treated on kitchen sanitation, refrigeration, roller towels, milk supply, water supply, fire-escapes and fire-fighting equipment, and plumbing interconnections on fixtures. It was only in connection with the last item that he found any fault with structural conditions and made recommendations for numerous physical changes. From the point of view of practices, he criticized conditions having to do with the storage of food, care of refrigerators, cow stables, and piggery.

d. *Condition of Plant—Proposed Additions.* The members of the Committee were continually impressed by statements that certain large additions and changes might be necessary at Glencliff. These statements, in the main, gather around the fact that the book capacity of the Sanatorium can never practically be filled, and that there may be need for even larger capacity than the present theoretical one. They also show a conviction that there should be larger and better accommodations for the nurses. And if additions are made to satisfy these needs, then enlargements may have to be made of various other elements in the institution to support the principal changes.

In the Biennial Report for July 1, 1938, to July 1, 1940, Dr. Deming gives the capacity of the Sanatorium as 140 patients. Another report states that there are *123 beds* (since 17 beds in the open wards are never

used). In the Biennial Report for 1942-42, Dr. Little says that 55 of the beds are in the open wards, and are not suitable on a year-round basis for the modern treatment of tuberculosis, hence implying that only 85 patients can be handled properly at certain times. The following figures taken from the Biennial Reports are also instructive:

	1938-39	1939-40	1940-41	1941-42
Average daily number	108.1	108.30	115.9	114.0
Largest daily number	114.	118.	123.	112.

In addition to the fact that the Wards are utilized only to approximately 40 percent of their capacity, another condition militates somewhat against full utilization of the 140 beds; that is, the division of the Infirmary into a men's ward (31 beds) and a women's ward (47 beds) calls ideally for definite quotas of patients by sexes—a state which is not possible. The disinclination to put an excess of men patients into the women's ward, and vice versa, probably tends to slow up the possibility of full capacity.

The figures for average daily number and largest daily number given above are much larger than they were ten years ago; and, when the adverse elements are taken into account, the Committee feels that probably Glencliff in the last year or two has been at its maximum practical capacity.

It is generally accepted that a State should have at least two hospital beds for tuberculous patients to every annual death from the disease. In 1941 the deaths from tuberculosis in New Hampshire were 106. If the highest daily average of Glencliff (115.9) is added to that of Pembroke (82.2 in 1940—the highest figure found), the result is 198.1. This shows roughly that New Hampshire is in line with the standard, but that there is little margin to speak of; what leeway there is lies perhaps at Pembroke (100-bed capacity

but actually 92), a privately owned institution. With conditions at Glencliff as they are, if there should be an increase in the need for beds for tuberculous patients in New Hampshire, or if anything should happen to withdraw Pembroke from the picture, it is fairly evident that the bed capacity at Glencliff would be inadequate. If the men's open ward were converted into a Nurses' Home, the inadequacy would of course be greater.

In his Biennial Report for 1940-42, Dr. Little says, "A new modern building for patients is urgently needed." He says this after explaining the inadequacy of the open wards. Then he goes on to say, "It has been suggested that this building be sufficiently large to permit *all cases of tuberculosis in the State to be cared for here* and thereby eliminate the necessity for hospitalizing a portion of the cases in the State at Pembroke Sanatorium."

This suggestion that Glencliff be the only sanatorium for tuberculosis in the State was discussed a number of times by the members of the Committee and those they conferred with. Those who opposed the suggestion did it on the grounds that Pembroke was nearer the industrial center of the State than Glencliff, and that patients were happier if they could be easily visited by their families. However, it was pointed out that the allocation of patients to the two institutions had never been on a geographical basis, but admittedly on the basis, in most cases, of the progress of the disease. Dr. Deming's wife, in a letter of March 5, 1942, to Mr. John J. Hallinan says, "In regard to the distance of this institution (Glencliff) from the southern part of the State, that fact, when used to influence patients from the southern part to accept treatment nearer home, has never been effective. I know of no occasion on which a patient has made any objection because of the distance from his home."

On general grounds it can be said that New Hampshire is a small State both in population and in size and that there are only half-a-dozen other States that have a lower rate of mortality from tuberculosis. The demands, then, on account of this disease are relatively small; and it may be quite unnatural to have two sanatoria functioning in the State. Even if Glencliff had 200 beds and were the only sanatorium, it would be small as State Sanatoria go. Undoubtedly there would be savings in costs per patient with only one sanatorium. Moreover, in its present size it is doubtful whether it would be advisable to expand the surgery program at Glencliff; with the institution increased in size, the situation might be different. This last will be discussed later. Finally, with one sanatorium only, the difficult question as to how to allocate patients would cease automatically.

All the above points of view were exhibited in the Committee; and the members feel definitely that the question of enlarging the capacity of Glencliff is one of the most important matters considered in their study.

In the Biennial Report for 1938-40 Dr. Deming recommended that $60,000 be appropriated for a Nurses' Residence. He gave the following reasons: "The present nurses' quarters are inadequate; the nurses are housed in two separate buildings, with no recreational facilities for off-duty time; there are no more rooms available in the entire Institution for an additional nurse or nurses, need for which is now evident; the nurses now eat in the main dining-room with the Ward patients, which is obviously not desirable; a Nurses' Home would allow us to use the present quarters for other employees, for several of whom there are now no available rooms and who are now living outside the Institution. The need was recognized by the last Legislature and a bill passed condi-

tional upon aid from the Federal Government, which has not been forthcoming."

In the Report for 1940-42, Dr. Little reiterates this recommendation and adds further reasons: "All modern hospitals provide attractive nurses' homes. Due to the isolation of the location of the Sanatorium, it is difficult to obtain the services of trained nurses, so it is even more essential that adequate quarters be provided for our nurses. As the Sanatorium increases in size, it will be necessary to employ more nurses, and we do not at present have facilities for housing any nurses who may be added to our staff." Dr. Little puts the estimated cost of $65,000.

As has been mentioned previously, the proposal has also been made that the Men's Open Ward be converted into a Nurses' Home. The Committee has considered this suggestion, but believes that it should be developed in more detail if it is to have weight.

On June 15, 1942, the Office of the Comptroller of the State of New Hampshire, Public Works Division, issued a very full and careful Preliminary Survey of Additions and Alterations to the State Sanatorium. This Survey presents estimates for a new Hospital and equipment to house 100 patients, a Nurses' Home to accommodate 30 nurses (now 13), and the added costs necessary to expand heating, laundry, and electrical facilities to carry the added load. The figures are as follows:

Hospital	$267,462.60	(74c. per cu. ft.)
Nurses' Home	89,087.37	(71c. per cu. ft.)
Heating	25,691.04	
Laundry	12,197.88	
Electricity	16,175.00	
Total	$410,613.89	

The Survey also recommends an earnest study of the water, sewer, and refrigeration systems as those

facilities show signs of inadequacy even under the present load. Above all it suggests the preparation of a complete plot plan of the whole plant before any further additions are considered.

In his Biennial Report for 1940-42, Dr. Little estimates that the cost of a modern hospital for 60-75 tuberculosis patients would be $131,000.

e. *Condition of the Plant—Proposed Minor Additions.* The Report for 1940-42 lists a number of recommendations that have appeared in previous reports. (1) Dr. Little puts first in importance the construction of a new reservoir to be supplied by a new source of water—this on account of the present reservoir filling up periodically with debris and silt (Cost, $25,000). (2) A new water main to the Infirmary Building ($4,500). (3) Roofing of the open coal pocket ($1,200). (4) Improvements to the Laundry ($2,000). (5) Creation of separate electrical distribution lines ($5,000).

f. *Facilities for Special Treatment, Examination, and Surgery.* The Committee was much impressed at Glencliff by the operating room and its equipment—a most up-to-date General Electric X-Ray machine, fluoroscope, various lamps—ultra violet, alpine, etc., dental chair, sterilizer, X-Ray file, case histories, etc. In this connection, Dr. Little, in his discussion of a possible new hospital building, says, "This building should also provide operating facilities for performing all surgery here at the Sanatorium. In this way the necessity for sending surgical cases to Boston and to Hanover could be avoided. The expense of equipping an operating room would be fairly large but the saving in hospitalization costs at other hospitals, which is now extremely high, would within a short time pay for the initial expense in establishing the operating room here at the Sanatorium. All modern

sanatoria now provide complete facilities for every form of treatment of tuberculosis within the Sanatorium."

When Dr. Little says "all surgery," it is presumed that he includes thoracoplasty, which means the surgical removal of ribs to permit collapse of the underlying lung. This is a major operation, performed in several stages covering considerable periods of time, and it is naturally costly. Dr. Deming, in his 1940 Report stated that "since a chest surgery program was inaugurated here, 85 patients have received one or more stages of thoracoplasty, with the following results:

51 patients have been discharged to their homes, of whom
40 are well and economically self-supporting;
8 are not economically self-supporting;
3 deceased.
26 patients are present patients, of whom it is felt that
10 may be discharged within six months;
8 may be discharged within one year;
6 need further surgery;
2 are unimproved.
8 patients died directly as a result of surgery (did not return to the Sanatorium from the hospital)."

Dr. Little reports that during the last biennium "15 patients have received one or more stages of thoracoplasty, bringing the total number of cases so treated since surgery was inaugurated to 100. The results were excellent."

Since it costs at least $750 a year to maintain a patient at Glencliff, and since many of the thoracoplasty cases are patients who might otherwise stay at the Sanatorium almost indefinitely, it is apparent that, even with large expenses for surgery and hospitaliza-

tion, there may be very material savings, both human and financial, in this modern program of major surgery.

Chest surgery has been done at Glencliff by Dr. Richard H. Overholt and his associate, Dr. Reeve H. Betts, of Boston, at the Corey Hill Hospital, and by Dr. Dawson Tyson of the Mary Hitchcock Hospital in Hanover. Since these surgeons are familiar with the situation at Glencliff, a *letter* of one of them dated April 2, 1942, to Governor Robert O. Blood has important bearing on this question: "Two years ago . . . I came to the conclusion that it would not be economical and probably dangerous to recommend that a surgical service be set up in sanatoria of approximately 150 beds or less. Our own experience has been that there is an indication for 30 major operations per year for each 100 sanatorium beds occupied. Therefore, an operating room in a sanatorium of under 150 beds would function but 45 times a year or less than once a week. Of course, the surgeon can visit the sanatoria and can operate in the sanatoria with as low an operative mortality as he can in his own hospital. The operative mortality, however, does not depend alone upon the skill of the surgeon but also upon a well-coordinated team for executing the operation and managing the after-care. These patients must be watched closely and constantly . . . We have therefore come to the conclusion that it is probably impractical and unsafe to consider the establishment of a surgical unit in any sanatorium where the unit would be infrequently used."

The letter quotes another well known surgeon to the same effect, and goes on to mention the paucity of trained thoracic surgeons in the country and the difficulty of getting trained assistants and nurses on account of the war; and concludes, "In my opinion, it would be unwise and uneconomical to pretend to build

up the surgical unit for major surgery at Glencliff at this time. I would strongly advise, however, that a compromise plan be worked out whereby all minor surgery, including phrenic nerve surgery, closed pneumonolysis, and anterior thoracoplasties which can be done under local anesthesia without risk, be carried on at the Sanatorium as was Dr. Deming's custom, and continue to send the major cases to the hospital of the thoracic surgeon."

Another interesting point of view comes from the Superintendent of the Nopeming Sanatorium, Minnesota, in a *letter* to Mr. Edward J. Gallagher (April 27, 1942) where the opinion is expressed that "to secure the best results the chest surgery should be done at the sanatorium where the preoperative and the after-care can be given by the physicians who have been following the case closely with X-Ray and laboratory tests."

Another competent surgeon suggests that local arrangements be made for chest surgery either at Glencliff or at Hanover with Dr. Overholt retained as a consultant. A very reasonable schedule of charges to the State for surgical work at the Mary Hitchcock Memorial Hospital is now in effect.

If Glencliff should become the only sanatorium for tuberculosis in the State, and if another 100-bed unit should be added, the matter of major surgery being done there would certainly, in the opinion of the Committee, take on greater importance. The recent appropriation of special amounts for chest surgery should surely not be decreased, but even added to. $5,181.92 was spent for chest surgery in 1938-40, and $3,000 was appropriated in 1940-42.

There is not space in this report to give statistics in regard to all types of examinations given at Glencliff in recent years or to many other tables having to do with patients at the Sanatorium. These can all

be found in the Biennial Reports. It might be mentioned, however, that in 1940-42 about 50 per cent of the patients received pneumothorax (temporary collapse) therapy, and 3073 such treatments were given as compared with 2738 in 1938-40. It has been the practice that collapsed lungs should be re-expanded before patients are allowed to go home, which may occupy a period of from three to five, or even ten years. This rigid rule is not now the practice in other parts of the country, and its relaxation would allow further space for patients at Glencliff.

g. *Expenses.* The following table gives the figures for appropriations, expenditures, and per capita weekly cost of patients at Glencliff for the last ten years:

	Appropriations	Expenditures	Per Capita Weekly Costs
1932-33	$88,300.00	$74,525.78	$15.30
1933-34	74,442.00	72,973.66	15.45
1934-35	74,567.00	73,779.03	15.74
1935-36	76,219.00	74,235.83	14.32
1936-37	76,219.00	80,319.68	15.16
1937-38	87,911.00	87,807.93	15.78
1938-39	84,801.00	85,810.38	15.21
1939-40	91,870.00	98,544.05	16.21
1940-41	90,885.00	88,934.54	14.67
1941-42	95,881.00	88,788.24	14.95

There is a small amount of income from patients, which, if considered, would reduce the per capita figures somewhat below those given above.

h. *Miscellaneous.* The Committee noted with interest the recreation room in the Men's Ward, and the fact that some of the house-keeping was done regularly by the patients. Some time was also spent in Spaulding Hall where opportunities for amusement and recreation are presented regularly. In this building also are facilities for occupational therapy. No

attempt seems to be made in the field of vocational rehabilitation.

Mention should be made of the fact that during the last biennium 119,505 quarts of milk were produced. All milk produced and bought is pasteurized. During the same period 21,078 pounds of pork were raised and dressed, and 1723 pounds of beef and 1626 pounds of veal. Maple syrup, hay, silage, potatoes, and lumber are also products of the farm, as well as fresh vegetables and berries.

Admission to Glencliff is obtained by application sent direct to the Sanatorium by patients or their doctors. If admission is approved by the Superintendent, the cases are referred to the Department of Public Welfare for approval of State maintenance. The Committee understands that the investigation of applicants has sometimes taken four to six weeks before admission is granted, but that that delay is now being reduced to a minimum.

2. *Pembroke Sanatorium*

a. *History.* The Pembroke Sanatorium has grown from a germ created by Henry T. Fontaine, M. D., about 1900 when he built the first main sanatorium building and a number of open-air camps on Pembroke Hill, five miles south of Concord. As there was no provision for State care of the tuberculous, the New Hampshire Society for the Prevention of Consumption was organized (1904), of which Dr. Fontaine was Secretary. He was also physician-in-charge of the early Pembroke Sanatorium.

In 1909 Dr. Fontaine died, and the Society, because of lack of funds, practically ceased. However, the Rev. Thomas Chalmers, of Manchester, acquired the Pembroke property in 1910 and carried on its operation until his death on July 4, 1940, since which time it has been administered by his Estate.

In 1911 the State of New Hampshire passed a Joint Resolution appropriating $20,000 for the years 1911 and 1912 each "for the treatment of persons afflicted with tuberculosis particularly in the advanced stages and for the encouragement of the establishment and maintenance of Sanatoria for the treatment of such persons." The institutions were to be approved by the State Board of Charities and Corrections and the State Board of Health. The Pembroke Sanatorium was approved by both of these boards, and thus began its period of State support in 1911. By 1942, the appropriation for free beds for indigent consumptives had reached $80,000. The Sanatorium is a corporation organized (1914) under the laws of the State of New Hampshire; all the stock is held at present by a Trustee, in accordance with the will of Dr. Chalmers.

b. Plant. Pembroke Sanatorium is located on the southern slope of Pembroke Hill in the Town of Pembroke, about 650 feet above sea level. The land about the main building is spacious, and a distant view of the plant is very imposing.

The chief building of the plant is the Hospital itself, to which is attached the Nurses' Home. There is also a small Schoolhouse for the children, and a few other buildings. The Committee inspected only the Hospital, Nurses' Home, and Schoolhouse.

The *Hospital* is a frame building of three stories, 165 feet long and of width varying from 87 to 38 feet. An open porch runs the entire length of each story on the south side. The basement is only partly excavated and contains space for a boiler-room, coal pockets, storage for vegetables and general utility, and a pressure-tank room. The first floor contains the offices, reception-room, dining-rooms, kitchens, storage-room, laboratory and operating-room, 6 boys' rooms, the girls' ward, 7 patients' rooms, and 5 baths. The second floor holds 27 patients' rooms, 5 bath-rooms, 3

other rooms, and 2 utility and linen rooms. On the third floor are 33 patients' rooms, 5 baths, and utility space. The building is said to have capacity for 100 patients, but apparently there are 92 beds available—14 for girls, 11 for boys, and 67 for adults.

The Nurses' Home is a one-story frame structure 135 feet long and 31 feet wide with a porch along the south side. It is connected with the Hospital by a covered passageway. There is no basement under the building, but a boiler-room and a coal-bin adjoin the west end. The building contains 12 nurses' rooms, 6 domestics' rooms, 4 men's rooms, 3 living rooms, and 3 baths.

3. *Condition of Plant.* The Committee found the plant excellently maintained and the house-keeping admirable. It was easy to see that those in charge have the highest standards of orders and cleanliness, and that paint and soap are not spared.

As in the case of Glencliff, the Committee's inspection was of such a nature that the members could see only the surface of things. They were, however, able to supplement their personal knowledge by information obtained from reports of the New Hampshire Board of Underwriters and of the State Board of Health, both reports made in March, 1942. The report in regard to fire-hazards spoke very favorably of the protection from extinguishers, small hose, lack of rubbish, alertness and attendance of employees, control of smoking, fire drills, and fire-escapes. On the other hand, it emphasized the inflammable nature of the construction, asserted that there was practically no protection from the outside, questioned the adequacy of the water supply and intimated that the sprinkler system was not complete. The recommendations in this report were mainly aimed to correct the above deficiencies. Enclosing the stairs and the heating boiler in a fire-proof manner was particularly recommended.

The report of the Board of Health critized the efficiency of the equipment for heating water for dishwashing and also a number of plumbing inter-connections which were in violation of plumbing regulations. It found no fault with the fire-protection equipment or the water supply. Certain minor unsanitary conditions were pointed out for correction. In this connection the Committee was rather surprised to find that the Sanatorium does not use pasteurized milk. The Committee's only criticism of the equipment was in regard to the 10 milliampere portable x-ray machine used in the Sanatorium. It was felt that this machine was entirely inadequate for the requirements of the institution. No special examinations can be made with such equipment, and it is difficult to get good chest pictures, and impossible to get uniform exposures from one year to the next.

d. Cost to the State. The cost of running the Pembroke Sanatorium is supported almost entirely by appropriations from the State on the basis of a weekly amount per patient. For example, the rate for board and treatment at Pembroke was set in September, 1919, at $15.00 per week per patient. On May 1, 1920, it was raised to $17.50; and on April 12, 1940, it was increased to $18.50, though the Sanatorium asked for $21.00. There is a small additional amount of income from other sources; in the 15 years from 1927 to 1941 it averaged $539.96 a year.

In view of the fact that Pembroke is a private corporation run for profit, the Committee discussed the possibility of the State's buying the Sanatorium, using it for tuberculous patients until Glencliff could be enlarged, and then utilizing it for indigent arthritic and cardiac patients. It was also suggested that such cases might better be in the county hospitals, which were said to have many unused rooms. It was even

suggested that these county hospitals might well be used for certain tuberculous patients and thus relieve the State institution. The members of the Committee did not believe very strongly that this last would be very practicable, nor have they had time to investigate the possibilities. This proposal may be worth further study.

Finally, in this discussion of the future of Pembroke, the proposal was made that Glencliff might be enlarged, and that when its size was adequate for the needs of the State, Pembroke could simply be dropped as an adjunct of the tuberculosis service. It was pointed out that such a move would be very unjust to the Pembroke Sanatorium; that for a great many years the institution had provided a service which the State needed and depended on; that the capital in the plant had been invested with the encouragement of state laws, etc., etc. There is every evidence that the owners of Pembroke have endeavored to fulfill their contract with the State honestly, and to provide a service that is adequate for this purpose. Against this was the argument that for a long time the Sanatorium had had the benefits of a profitable business which could not be guaranteed forever; that the plant could undoubtedly be used for other purposes; that in the last analysis the State was bound to follow its own interests, etc., etc. *The Committee was unanimous in its opinion that it could not recommend the purchase of Pembroke by the State.*

e. Allocation of Patients between Glencliff and Pembroke. In the Biennial Report for 1938-40, Dr. Deming says, "We classify patients admitted as Incipient (or Minimal) when the amount of lung involvement is limited to one or both apices, but not exceeding one whole lobe. Moderately Advanced when the lesion involves one or more lobes, but does not exceed a total of one whole lung. Small, but indistinct

cavity formation may or may not be present. Far Advanced where the lung involvement totals either more than one whole lung or distinct cavities occur in one or more lobes, even if the total amount of involvement does not exceed one whole lung; or those cases, regardless of the amount of tissue involved, in which various tuberculous complications are found."

Later he says, "Incipient cases of uncomplicated pulmonary tuberculosis, or early, favorable moderately advanced cases are authorized for admission by the Board of Trustees (of Glencliff). Through various errors, and during the winter of 1939-40, by direct order of the Trustees, in order to keep our beds filled, farther advanced cases and those with certain complications have been admitted; but the practice has been to refer such patients for admission to Pembroke Sanatorium. This separation of cases has been generally found advisable for various valid reasons."

If Dr. Deming had added that children under 16 were not usually admitted to Glencliff, and that some non-pulmonary cases were entertained at both sanatoria, he would have summed up what has been, generally speaking, the practice from the start of allocating cases to Glencliff and Pembroke.

The following tables illustrate this point. They are not parallel, but they are near enough so to be pertinent.

Stage of All Those Admitted to Glencliff, 1938-39

Incipient	25
Moderately Advanced	24
Far Advanced	17
Not Tubercular	14
Total	70

Stage on Admission of All Treated at Pembroke, 1939-40

Incipient	21
Moderately Advanced	29
Far Advanced	113
Acute Milliary	1
Non Tubercular	2
Total	166

In these same years there were no children under 14 at Glencliff, and 29 children at Pembroke—most of them probably under 14.

The Committee did not have Dr. Deming's "various valid reasons" for dividing patients among the two sanatoria according to the progress of the disease; but they did feel, after discussion among themselves, and with the representatives of the New Hampshire Medical Association and of the New Hampshire Tuberculosis Association, and with Dr. Hilleboe, that there were very strong reasons against the present practice. These reasons really group themselves under two heads: (1) consideration for the patients and (2) consideration for the medical attendance.

1. The Committee found abundant evidence that Pembroke was looked upon as a place where there was no hope of recovery, and that patients who went there were doomed, even with the possibility of adequate treatment. The members feel that, in a disease like tuberculosis, where the course of the illness stretches out monotonously for many months, and where the trends for better or for worse exhibit themselves very slowly, it is vitally important that the patient at least have the stimulus that comes from peace of mind and hopefulness. With the reputation that Pembroke seems to have, such a result must be very difficult to attain.

2. The Committee was also of the opinion that it was unfair to doctors and nurses to confine them in their attentions almost entirely to cases where there

was little possibility of recovery. No professional person can grow and have enthusiasm in his task unless he can point to a large proportion of accomplishment in his work. In order to do this he must have fertile ground to work on as well as barren. It would seem inevitable for a doctor trained in the combating of tuberculosis to lose ground and slacken in his enthusiasm if he does not have an even opportunity to meet all stages in the progress of the disease. A letter from the physician in charge of Pembroke, dated March 26, 1942, to Mr. John J. Hallinan, reporting on a visit by one of the consultant surgeons is quite significant—and depressing as well. This doctor apparently considered 12 cases at Pembroke that might be helped by pneumothorax or chest surgery. In some of the cases he said "No recommendations." In 7 of them he said "You *might* try so-and-so"—no positive convictions expressed. And his comment to the physician-in-chief while surveying cases at Pembroke was "lean pickings for chest surgery."

On February, 1942, the New Hampshire Tuberculosis Association sent out a letter to the executive secretaries of the State Tuberculosis Associations of the United States asking about their policies relative to sanatoria for advanced stage cases of tuberculosis. Replies were received from 42 States and the District of Columbia. The information was somewhat complicated by the fact that in many large states there are county sanatoria as well as State; but, generally speaking, 31 states reported as making no distinction between patients in early and advanced stages. Several said definitely that they thought New Hampshire was unwise in its policy. The opinion was almost universal that when a sanatorium is reserved for advanced cases only, it gets the reputation of being a place for patients to die in, and patients shrink from it. Connecticut, Maine, Massachusetts, and Vermont admit

all cases, and Rhode Island has only one sanatorium which takes all stages. Many states have apparently started out with the idea of treating the stages in separate sanatoria, but have given it up. If both sanatoria in New Hampshire had started as State institutions, it is doubtful whether the distinction would have continued.

f. Personnel. In listing the personnel of Pembroke, that of Glencliff is placed beside it for purposes of comparison, but it should be kept in mind that Glencliff has a greater population than Pembroke and a larger plant. The list follows:

Pembroke	Glencliff
President	Trustees
Clerk	
Treasurer	
Physician-in Chief (Part time)	Superintendent and Medical Director
Resident Physician (Part time)	Assistant Physician
	Interne
Bookkeeper	Bookkeeper
	Stenographer
Superintendent	
8 Nurses	9 Graduate Nurses
3 Nurses' Aides	4 Tuberculosis Nurses
	Occupational Therapy Teacher
	2 Orderlies—Infirmary
	2 Attendants—One each ward
	Housekeeper
Cook	Chef
	Pastry Cook
Kitchen Man	Kitchen Man
Tray Man	2 Waiters
2 Diet Kitchen	Waitress
4 Maids	2 Maids
Part time Man	Relief Man
	Laundryman
	Laundress
	Groundsman
	Groundsman and Utility Man
Janitor and General Repair Man	Janitor
Foreman and General Repair Man	Engineer
	3 Firemen
	Stock Clerk and Chauffeur
	4 Farmers
	Carpenter

The chief comment of the Committee on the personnel of Pembroke is that there is no single full-time physician employed by the Sanatorium.

g. *Previous Survey of Pembroke.* On account of some complaints about Pembroke (which did not seem to the Committee very well founded), Governor Blood in 1941 asked the Department of Public Welfare to make an impartial survey of Pembroke Sanatorium. The survey took place in May, and was made personally by Philip N. Forsberg, M. D.; Miss Alice Van Dyke, Chief Dietician, N. H. State Hospital; and Miss Belle G. Valentine, Department of Nursing, N. H. State Hospital. These people spoke very favorably of many aspects of the place, but also criticized a number of physical features, practices, and matters of personnel, the most important of which have already been referred to in this report as mentioned by other people. The authorities of Pembroke took the report of this survey very much to heart and found much that was helpful in the suggestions. The argument put forth by Pembroke that, owing to the character of their patients, there is not much that can be done in the way of occupational therapy and entertainment, may have much weight.

h. *Children at Pembroke.* One of the things that made a deep impression on the members of the Committee was the children at Pembroke. Sick children always have a pathetic appeal—doubly so when they are in the grip of a deep-seated disease from which escape is problematical. It seemed hard that children should have to be in a sanatorium along with adults afflicted with advanced and hopeless disease, even though the children were in separate wards with their own dining room, and were able to go to school in their own school building. There is no doubt that the children seemed happy and well cared for.

However, the committee felt pretty strongly that they agreed with the opinion of one of the country's leading authorities on tuberculosis, who says, "It is not sound public policy to place children in a sanatorium for the sole purpose of building them up physically. Furthermore, experience in various medical centers throughout the country in the last ten years has amply demonstrated that sanatorium care is not indicated for the vast majority of first infection type cases of tuberculosis among children. *The place for the normal child is in the home.*"

i. *This report does not include many technical and medical data* in regard to Glencliff and Pembroke which can be found in the reports of the institutions themselves, in Dr. Hilleboe's report, and in various other documents the Committee has studied. The purpose of the members has been to bring out the significant and striking facts and ideas on which important policies seem to rest, and on which important decisions may have to be made.

3. *Other State Organizations and Institutions That have a Relation to the Tuberculosis Question*

a. *The New Hampshire Medical Society.* As has been stated, the committee had a conference with three representatives of the New Hampshire Medical Society.

The general impression which the members of the Committee received as a result of this meeting was that many of the doctors in the State were not very well informed on the tuberculosis problem as a whole and were apathetic towards procedure that might better the situation. The Committee may be wrong in this conclusion.

Although in 1911 tuberculosis became reportable as a communicable disease, apparently no concerted

effort has been made to encourage physicians to report this disease. This opinion arises from the fact that the ratio of known cases to deaths is so low. That is, normally there are from 3 to 10 cases of tuberculosis for every death from tuberculosis in a given year. The ratio in New Hampshire for four selected years was as follows:

1920	1.83 to 1
1930	1.00 to 1
1940	1.74 to 1
1941	1.81 to 1

Moreover, of the 106 deaths from tuberculosis in 1941, 21 per cent (22) were new cases reported by death certificate only, and also were non-institutional cases. Opportunities for spread of the disease must have been great for several months in these homes prior to death, when the disease, invariably in an advanced stage, is readily communicable.

b. *The State Board of Health.* The State Board of Health has no subdivision set up for tuberculosis control, but does maintain a laboratory for the examination of suspected specimens and keeps morbidity and mortality statistics in the Department of Vital Statistics. The reason for this inactivity of the State Board of Health in tuberculosis control is undoubtedly due to the fact that the New Hampshire Tuberculosis Association was organized in 1916, and became actively engaged in a preventive program, including chest diagnostic clinics and nursing service in every county of the State.

The State Board of Health has regularly made no specific allocation of funds for tuberculosis control.

No monthly medical reports are sent in to any State agency from *Glencliff* for administrative purposes or central control.

The committee feels that an inspection of the insti-

tution (Glencliff), water and food supplies, and sewage system at regular intervals of not less than one year by the State Board of Health, is essential in order to establish and develop a high standard of environmental sanitation.

No regular inspections are made by the State Board of Health of the Pembroke Sanatorium, its food and water supplies, or sewage disposal plants. Raw milk is used for patients and employees alike. This practice in the judgment of the Committee should be discontinued, unless the State Board of Health, after careful investigation, makes recommendations to the contrary, and accepts responsibility for continuous supervision in the future.

The following is from the Annual Report of the N. H. Tuberculosis Association, October 1, 1942:

"We are exceedingly fortunate in the close relationship between the State Board of Health and the New Hampshire Tuberculosis Association.

"The State Board of Health gives the Association every assistance in control of incorrigible patients by means of quarantine of non-cooperative tuberculosis patients. This is a sad, disheartening and harassing phase of dealing with some patients. Fortunately they are few in number—yet these few cause distressing problems in the control of the disease, particularly when they refuse to remain in the sanatoria and return to homes in which little children are exposed to the infection. In these instances the State Board of Health may issue a quarantine order requiring segregation of these individuals in an appropriate institution. This procedure has been carried out in several instances, yet with due care to obviate any thought of interfering with the proper rights of cooperative patients.

"In addition, our State Department of Health has

been most helpful in the examination of sputums, blood counts, sedimentation rates and other laboratory procedures. The requests for such services go to the State Laboratory from our Chest Diagnostic Clinic Centers. The response is prompt and reliable to the workers in the field. The volume of these services increases necessarily."

c. *New Hampshire State Hospital* (for the mentally ill). It was reported that 11 of the 94 deaths from respiratory tuberculosis in New Hampshire in 1941 (12 per cent) occurred in the State Hospital. There are about 2300 patients and 600 employees at that institution, and on June 27, 1942, approximately 25 patients were isolated because of tuberculosis. Of the 265 patients out on parole, some may be unrecognized cases and act as disseminators of the disease. One of the orderlies of the State Hospital was found to have advanced tuberculosis. No routine x-ray examinations of the chest or routine tuberculin tests are made on patients or employees, though an x-ray machine is available and though Dr. Dolloff would like to do this if funds and personnel were available.

d. *Laconia State School* (for the feeble-minded). This institution has 630 patients and 128 employees. In June, 1942, only two cases of tuberculosis were known to the Superintendent, who, however, would welcome a tuberculosis control program if it were financially and humanly possible.

4. *The New Hampshire Tuberculosis Association*

While the care of the majority of indigent tuberculous persons in the State falls mainly to the two sanatoria—Glencliff and Pembroke—the work of finding the cases and classifying them, of providing a service that is ready to help in all problems of the

disease, and of educating the people of the State to the dangers of tuberculosis and provisions for its control, has, for many years, been carried on by the New Hampshire Tuberculosis Association. This has been truly a noble work—supported by many of the State's most earnest and distinguished citizens, activated by an energetic and devoted Secretary, and showing results that few States in the Union can parallel. The Committee had the pleasure of conferring with a representative group from the Association, and was much impressed by the seriousness of their purpose and their willingness to turn their efforts wherever they would be most valuable to the State.

The Association started in 1916, at a time when the death rate from tuberculosis in New Hampshire was 114 per 100,000 population. In 1941 the death rate was 21, a reduction of 81.5 per cent—the greatest percentage of reduction among the States in that time. New Hampshire now has the seventh lowest death rate in the nation and the lowest in New England. There can be no doubt of the very large share which the New Hampshire Tuberculosis Association has had in this result.

In order to carry out its plans, the Association has been very successful in raising money and supporting a large and varied budget. Most of the income comes from the sale of tuberculosis seals. In 1941 the income was $37,405.70, and the expense, $37,301.01.

Some of the fields in which the Association works are summarized briefly in the following paragraphs.

Armed Forces. Since September, 1940, every man who has been called by the selective service in New Hampshire has been given thorough physical examination (including chest x-rays). In addition, immediate relatives of men rejected for tuberculosis have been examined whenever possible in order to locate the original source of infection. One hundred and four

men have been rejected by the selective service and National Guard on account of the disease, of whom only 11 knew previously that they were affected. All these cases are being treated in the sanatoria or in their homes under the supervision of physicians or chest clinics as the activity of the disease may warrant. Statistics show that in World War I, the death rate from tuberculosis rose markedly in the United States, and recent figures from England indicate that there has been a rise there since the present war started. The State can expect an increase in the disease unless special precautions are taken to combat it.

Case-Finding. During 1941 Chest Diagnostic Clinics were held in every county in the State—in 25 cities and towns. In these centers a total of 1772 new patients were examined for tuberculosis by the tuberculin test, chest x-rays, and physical examination. A total of 1759 old cases passed through the clinics—for the most part "arrested cases" for a check-up. Total visits by new and old patients in the regular Chest Diagnostic Clinics totaled 5,248 in the course of the year. These cases are referred to the clinics largely through family physicians, public health nurses, former sanatorium patients, social welfare services, etc. The Association has a staff of nurses who service the case-finding, the follow-up, and the supervision. Last year they made a total of 16,782 home visits. The chest x-rays are taken at designated times by means of portable x-ray equipment loaned to the Association by the State Board of Health or in some one of the 27 general hospitals throughout the State which assist in the work. Approximately 1,480 chest x-rays were taken last year. Outside the clinics, the Association makes arrangements for chest x-rays for low-income families when requested by family physicians—this is done at the nearest hospital. Also the Association maintains

a service of interpreting chest x-ray films (accompanied by case histories) sent in by hospitals and private physicians.

Mass Examinations. In addition to the groups already mentioned, a total of 2,254 young men and women were tuberculin tested, and positive reactors from these groups were chest x-rayed during the past year in surveys at the University of New Hampshire, St. Anselm's College, the Teachers Colleges at Plymouth and Keene, and 12 high schools in various sections of the State.

Education. During the year, the Association distributed some 30,000 pieces of literature, displayed its motion pictures before many groups of people, issued radio transcriptions, and presented health talks by staff members.

As Dr. Hilleboe says, "To Dr. Kerr great credit is due for his long continued efforts on behalf of the New Hampshire Tuberculosis Association." This should also include the generous and public-spirited citizens who have stood behind him.

A New Campaign. On reviewing all the information it has assembled, the Committee is confident that with a little more concerted effort on the part of all the elements in the State that deal with tuberculosis, the fine results that have already been attained can be pushed even farther until the State is practically free from tuberculosis.

In his very admirable report, Dr. Hilleboe points out the field in which he is confident that special efforts should be concentrated at the present time. He explains that there are 64,000 industrial workers in the State—13% of the State's population; and then he speaks of the fact that *New Hampshire is much below the accepted standards in its ratio of reported cases to deaths*—less than 2 to 1 when the accepted norm is 3

to 1 up to 10 to 1. He mentions a complaint of Dr. Deming that symptomless minimal cases are a rarity —that almost all the applications he gets are from far advanced cases. "Yet", says Dr. Hilleboe, "in large industrial chest x-ray surveys, we are finding as high as 60% *of the newly discovered cases to be in the asymptomatic minimal stage.* Analysis of this morbidity data gives indirect evidence that *case-finding is not being directed where early lesions are to be found,* or else, if many new cases are being found, *they are not being reported.*"

Then he goes on to exhibit by tables, graphs, and text a comparison of deaths (from tuberculosis) by ages for the years 1919-21, 1929-31, and 1939-41, in New Hampshire. The evidence thus shown demonstrates very clearly that, while in 1919-21, the deaths were greatest among both males and females from the late 'teens to perhaps 45, by 1939-41 deaths of males from, say, 45 on predominate. In this last period there are almost no deaths among children up to about 17.

Dr. Hilleboe sums this up as follows: "In persons under fourteen years of age, there really is not much of a tuberculosis problem at the present time. It is clearly shown that *control-efforts should not be concentrated among children, but elsewhere.* . . . The real increase in 1939-41 comes among males 35 to 65 years of age, the industrial workers, the persons who provide the back-bone of our manpower during the present emergency. . . . *It is among these persons that the greatest efforts for tuberculosis control should be concentrated* in New Hampshire, where small investments should pay big dividends in the conservation of manpower and the prevention of the spread of disease."

B. Recommendations

1. *Coordination.* In all their study, the members of the Committee have been impressed, more than

anything else, by the lack of coordination (not cooperation) between the various elements engaged in tuberculosis control in the State.

The two State departments involved—the *Board of Health* and the *Department of Public Welfare*—do not, apparently, occupy dominant or guiding roles; they assist and adjudicate materially, but do not seem to have any hand in the direction of a State-recognized policy of tuberculosis control. The *State Sanatorium* is under a Board of Trustees who have authority in the financial and business affairs of the institution. They take and handle the business that comes to them, but as to how far their eyes are turned outward to the whole problem in the State, it is hard to say. The Pembroke Sanatorium, operated by a private corporation, is in much the same position. The *New Hampshire Tuberculosis Association* is a private association doing a magnificent work, but it is not in any way subject to State dictation—it can turn its activities in any direction it wishes. The *New Hampshire State Hospital* has apparently been quite isolated and unknown as a factor in the State's tuberculosis problem, until recent statistics have pointed out its importance in that field.

While the above institutions are all working faithfully for a common purpose, it can hardly be said that they are all organized together for a common purpose. They are to some extent interdependent, but in many ways independent. This is true also of their executives. There is no relation of authority or frame of concerted action among them all. It would be interesting to know whether the Secretary of the Board of Health, the Commissioner of Public Welfare, the Physicians-in-Chief of Glencliff and Pembroke, a representative of the New Hampshire Tuberculosis Association, the Superintendent of the State Hospital, and one of the consultant surgeons used by the Sanatoria

have ever all sat down together and talked over the tuberculosis problems of the state at length.

If the sincere aim of those intersted in this problem is really to end tuberculosis, it can be done only by organized and unified action. And it is not too much to hope that it actually can be done. It would perhaps be ideal if there could be a single tuberculosis-control head in the State with the training and authority necessary to direct all the work. But this is probably out of the question, and not necessary, because, if the existing elements can be drawn closer together, just as satisfactory results may be possible of attainment.

For example, the idea of a semi-official Council for the Control of Tuberculosis might be considered—a body that would meet quarterly and review and direct the basic activities of the tuberculosis campaign. Its members might be as follows:

Secretary of the State Board of Health
Commissioner or Chairman of the Dept. of Public Welfare
Superintendent of the State Hospital
A member of the Glencliff Trustees
Physician-in-Chief of Glencliff
A member of the Corporation of Pembroke
Physician-in-Chief of Pembroke
Secretary and another member of the N. H. T. A.
One of the Consultant Surgeons from Hanover
A member of the N. H. Medical Society

Some such body could probably select and plan the action on desirable policies far better than can be done with the present set-up.

To illustrate: Dr. Hilleboe has intimated that one of the most fruitful things the State could do is examine and chest x-ray the 60,000 industrial workers in the State. How can such a suggestion be picked up and acted upon? It would be a tremendous task, and the State itself has no machinery for the job. But suppose that this Council existed. If it approved

the project, it would organize all the existing elements that should participate and know ahead just what demands it had to meet. The N. H. T. A. could prepare the publicity, educate the industrial managers and secure their financial support. The N. H. T. A. and the Board of Health could supervise the clinics necessary for the examinations—one drawing on its wealth of experience, the other providing the tools. The doctors, with their knowledge of vital statistics, would know how many tuberculous cases would be turned up in the investigation, and their sanatoria would be ready to provide accommodations. The Welfare Department would know that many of the cases would be bread-winning parents, and that therefore aid for mothers and dependent children would have to be earmarked. Legislative appropriation might be necessary, and the concentrated influence of such a Council might make it easier to obtain.

To such a Council would naturally go such questions as, the allocation of patients between Glencliff and Pembroke; the development of chest surgery within the Sanatoria; standards of admission and retention of patients in the Sanatoria; adequacy of physical equipment particularly for x-ray and operative work; the treatment of tuberculous patients in the State Hospital; the reporting of cases by medical doctors; areas in the population to be examined, etc., etc.

Such a plan may be too ambitious at the start, but, at any rate,

The Committee Recommends that such a group be nominated—it seems the most natural and logical way in which to unite in a federal form all the forces in the State which are concerned in the control and eradication of tuberculosis. The body might be called the *Advisory Council on Tuberculosis,* or some such

title. The Committee does not know whether legislative action is necessary to nominate this Council or whether it can be done under existing powers. Its authority at the start might be consultative and experimental rather than plenary.

2. *The Future of Glencliff.* The Committee has discussed at great length and from every angle the question of having another sanatorium besides Glencliff in the State supported by State funds, and

The Committee Recommends that, looking into the future, the State should be concerned with the development of Glencliff Sanatorium, so that eventually it will be in a position to take care of all qualified patients from the State of New Hampshire. Thus, ultimately, the practice of supporting patients outside its own institutions can be discontinued, and the care of tuberculous patients can be brought more adequately under State control.

3. *The Committee Recommends* that the *responsibility for the payment* for care of tuberculous people at Pembroke Sanatorium *be transferred from the Department of Public Welfare to the Department of Health;* and that, because of the fact that the Department of Public Welfare has the personnel throughout the State, applications for admittance to either Glencliff Sanatorium or Pembroke Sanatorium be referred to the Department of Public Welfare for completion of the economic investigation. Applications may be made either before or after admittance, depending on the circumstances.

4. *The Committee Recommends* the establishing of a *Board of Control* for the admittance and the continued eligibility of hospitalization of patients in both Sanatoria. It is suggested that the Superintendent of Glencliff Sanatorium be the Chairman of this Board,

and that the other members be the Physician-in-Chief of Pembroke Sanatorium and the Secretary of the State Board of Health. This Board should have (if necessary, through the enactment of new legislation) authority to establish rules and regulations for the admittance and retention of patients, and to conduct a statewide educational program among physicians so that the presence of tuberculosis will be more accurately diagnosed and physicians will be more familiar with the procedure for the hospitalization of patients. If the Council recommended above were inaugurated, the members of this Board of Control would be included in it and thus have an added source of advice and counsel.

5. *The Committee Recommends* that the State purchase immediately *portable x-ray equipment* of the type recommended by Dr. Hilleboe. It is understood that this equipment costs about $5,000, that there are State funds that are available for the purpose, and that such a machine can be procured before January 1, 1943, but not after that.

6. Finally, the *Committee Recommends* that immediate consideration be given to plans for *examining all the industrial workers of the State* with the view of establishing further tuberculosis control. It is suggested that this be done with the cooperation of Labor and Management and with the support of the New Hampshire Tuberculosis Association, and that, if necessary, legislation be secured to authorize the project.

Respectfully submitted,

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CORNING BENTON, *Chairman*

December 31, 1942